Tract

Climate & Biodiversity Positive Design

Position Statement 2024

Acknowledgement of Country

Our Country, 2022
88 x 119 cm Acrylic on canvas
Original artwork by
Alfred Carter
Gunaikurnai

We pay our respects to the Traditional Custodians of Country throughout Australia, their Elders and ancestors, recognising their rich heritage and enduring connection to Country and acknowledging the ongoing sovereignty of all Aboriginal and Torres Strait Islander Nations.

We recognise the profound connection to land, waters, sky and community of the First Nations peoples, with continuing cultures that are among the oldest in human history. We recognise that they are skilled land shapers and place makers, with a deep and rich knowledge of this land which they have cared for, protected and balanced for millennia.

Quality Assurance

Climate & Biodiversity Positive Design
Position Statement

300.2000.00.T.12

Revisions

No.	Date	Description	Prepared By	Reviewed By
00	10 May 2024	Draft for Board review	GdB, JF, AT, IV	JF, JL
01	20 May 2024	Revision for internal staff review	GdB, JF, NS, CF, ME	JF
02	19 August 2024	Revision for Board endorsement	GdB, JF, NS, CF, ME	JF
03	23 September 2024	Final issue	GdB, JF	JF

Contents

A message from Deiter Lim, Managing Director

Since our inception, Tract has always strived to leave a positive impact on the cultures, communities, and environments in which we work. As we collectively tackle the twin global crises of climate change and biodiversity loss this ongoing philosophy is now more important than ever. As a national practice of planners and designers, we are acutely aware of the impacts we have in shaping the cities and regions in which we all live, the projects we deliver and the influence we have in the planning, design, development and construction industry in Australia. Through our ongoing daily operations we have the means to minimise carbon emissions and biodiversity loss in the way we work and in the projects that we deliver for our clients.

Where possible, we seek to achieve ''climate positive'' or ''biodiversity positive'' results through carbon reduction, carbon sequestration and increasing biodiversity within our projects. These twin objectives directly align with our ongoing Reconciliation Action Plan aspirations, providing a means of caring for and healing Country.

In line with our values and ethos, we continue to evolve our practice as we have done over the past 50 years. It is incumbent on us that we continue to develop, adopt and incorporate climate and biodiversity positive design principles and actions into our day to day processes. We practice in an ever-changing world, and we must continue to adapt, evolve and equip our planners and designers with the knowledge and tools to tackle these defining challenges of our time. It is with great pride that we launch our Climate and Biodiversity Positive Position Statement as we look forward in adopting new ways of working in order to leave a positive impact in everything we do.

Deiter Lim
Managing Director
Tract

Background

Tract acknowledges the twin crises of climate change and biodiversity loss as the defining challenges of our time.

The imperative to act.

Tract acknowledges the need to take urgent action.

The Intergovernmental Panel on Climate Change states that humanity has until 2030 to take action to avoid catastrophic temperature rise[i].

The Intergovernmental Panel on Biodiversity and Ecosystem Services states that humanity has exceeded planetary boundaries, and that human action has resulted in over 1 million animal and plant species being threatened with extinction globally[ii].

The role the built environment plays in exacerbating or mitigating these issues.

The built environment sector plays a key role in driving urbanisation and consumption patterns and practices which are key contributors to climate change and biodiversity decline. The built environment has expanded by 66% in the first 12 years of the century and is projected to continue this growth, which is a key threat to biodiversity[iii].

It is estimated that cities account for 60-70% of greenhouse gas (GHG) emissions[iv] and concrete for 5-7% GHG emissions[v]. Building construction alone contributes 37% of global emissions annually[vi]. As such, we recognise the role the built environment must play in creating change. As designers and planners, we have a responsibility to actively address these challenges through our work.

The need to go beyond sustainability and strive for climate and biodiversity positivity.

Given the severity of these issues and the urgent need for change, Tract aligns with industry bodies who assert that built environment professionals must go beyond 'Biodiversity Sensitive' or 'Net Zero' approaches to become 'Climate and Biodiversity Positive'[vii].

The need to integrate climate and biodiversity responses.

Action on climate change and biodiversity loss must be considered together as action in one area can undermine outcomes in another, for example planting tree species that do not enhance biodiversity. The intersectionality of these two issues, and their relationship with other sustainability challenges such as a circular economy and health equity, must be considered in any response.

The need to link this work with our Reconciliation Action Plan.

This work also underpins commitments made through Tract's Reconciliation Acton Plan. Meaningful reconciliation cannot be achieved without caring for, and connecting to, Country.

The need to address these issues as a business imperative.

Tract recognises that Government and private clients are increasingly seeking to work with organisations who demonstrate a commitment to sustainability, as well as ensure the spaces they create reduce emissions, are resilient to a changing climate and improve biodiversity. The transition outlined in this statement constitutes a business imperative for the organisation.

What is Climate Positive Design?

Climate positive design involves adopting climate mitigation and adaptation strategies.

Climate mitigation entails reducing greenhouse gas emissions and embodied carbon while actively contributing to carbon sequestration, thereby ensuring a net-positive impact on the environment.

Climate adaptation aims to reduce the felt impacts of climate change, from moderating urban heat, to protecting communities from sea level rise and more severe and frequent floods, extreme heat days, winds, storms and bushfires.

What is Biodiversity Positive Design?

Biodiversity positive design aims to protect, enhance, and restore ecosystems and their connections, supporting the protection and proliferation of diverse, indigenous plant and animal species, resulting in a net gain in biodiversity.

This entails prioritising the retention of existing indigenous vegetation and use of climate resilient local indigenous plants to create habitat corridors, promote biodiversity infrastructure, and design for biodiversity coexistence.

Green infrastructure and nature-based solutions are a key component of designing for biodiversity net gain. Ecosystems can be protected and restored to increase biodiversity and address climate change adaptation and mitigation by incorporating and enhancing natural elements in projects.

Restoration projects require the specification of a mix of provenance sourced plants consistent with current evidence on specifying plant species for climate resilience.

Highly amended novel ecosystems require local indigenous plants to be prioritised, followed by species native to Australia, with exotics used for key purposes, such as solar access. All plants need to be selected to respond to the site conditions and climate resilience.

Biodiversity positive design also means that projects take steps to foster greater harmony and connection between humans and nature.

These responses need to be informed by research.

Commitments

Tract commits to becoming a climate and biodiversity positive design and planning practice. Delivering on this commitment will take time. This document outlines how our transition will be staged and provides a road map for enacting this change.

This document will be reviewed and updated annually to ensure the commitments are current.

Once Board endorsed, this position statement will be used to inform staff and external stakeholders of Tract's commitments to becoming a climate and biodiversity positive organisation and guide future action.

A Board endorsed and costed annual Climate and Biodiversity Action Plan will be developed to outline the activities Tract will undertake to deliver on the commitments made in this Position Statement.

Once the 'Assess' phase of the road map on page 25 has been completed, we will develop discipline specific goals and targets for operations, landscape architecture, planning, urban design and media.

Following this are our interim commitments, which will be reviewed annually as part of a review of this Position Statement.

Operations

Achieve carbon neutral operations by 2025 and net zero by 2030.

Projects

Seek to reduce emissions, embodied carbon and biodiversity impacts, that result from decisions Tract controls or can influence as part of our projects. This includes Landscape Architecture, Town Planning, Urban Design and Media.

Industry Leadership

Acknowledge and embrace our responsibility as industry leaders through research, partnerships, advocacy, and policy.

Phillip Island Nature Park, VIC
Bunurong

Operational Goal

Achieve carbon neutral operations by 2025 and net zero by 2030.

Strategies:

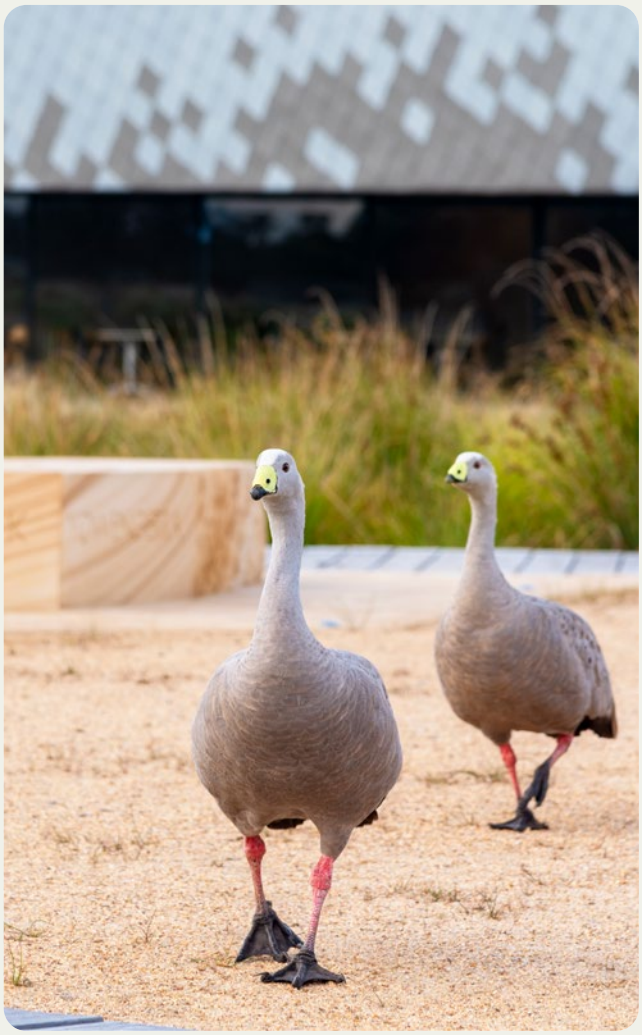
a. Measure our emissions for a 12 month period to establish a baseline.

b. Reduce our waste and emissions.

c. Educate our staff on ways they can reduce emissions and waste.

d. Offset any remaining emissions with quality carbon credits.

e. Apply for carbon neutral certification.



Project Goal All Disclipines

Seek to reduce greenhouse gas emissions, embodied carbon and biodiversity impacts that result from decisions Tract controls as part of our projects.

Strategies:

a. Establish a framework to determine how Tract can embed best practice approaches to climate and biodiversity positive design and development, tailored to all types of projects across disciplines.

b. Develop or adopt tools that can be used to assess the performance of select Tract projects and monitor change over time.

c. Inform our project approach with evidence based climate and ecological principles.

d. Invest in research and training to enable our staff to advocate for and contribute to positive project outcomes.

e. Actively and consistently advocate for climate and biodiversity positive considerations to clients and project team members.

f. Embrace innovative and flexible approaches to identify resilient solutions that can be adapted over time.

g. As connection to, and care for, Country underpin this work, link Climate and Biodiversity activities with the Reconciliation Action Plan.

h. The budget for these activities will be determined by the Board through the development of an internal Board endorsed Climate and Biodiversity Action Plan. This action plan will outline the activities Tract will undertake to deliver on the commitments made in this Position Statement.

Town Planning

Strategies:

a. Support and promote strategies that seek to reduce overall energy demand, reduce greenhouse gas emissions and embodied carbon, including pathways toward net-positive development outcomes.

b. Promote the application of environmentally sustainable development tools and frameworks (such as Green Star , Green Factor and BESS) on relevant projects and work with project collaborators to encourage high-performance outcomes under these frameworks.

c. Promote land use and development outcomes that support low-carbon-footprint living, climate adaptation and improved biodiversity, including prioritisation of active and public transportation and urban consolidation.

d. Encourage where practicable the retention of existing canopy tree cover, understorey and indigenous vegetation on all projects and promote the provision of biodiversity positive landscape outcomes.

Urban Design

Strategies:

a. Promote land use and development outcomes that support low-carbon-footprint living, including prioritisation of active and public transportation and urban consolidation.

b. Promote strategies (including pathways toward net-positive carbon) that seek to reduce overall energy demand, reduce greenhouse gas emissions and embodied carbon.

c. Review canopy cover and understorey targets in line with state and local authority best practice guidelines at the start of a project and work with Landscape Architects to ensure the technical requirements can be met.

d. Explore climate adaptation and resilience measures in all projects to ensure designs are appropriate in a changing climate and continue to provide an acceptable level of comfort for users.

e. Aspire to employ methods and approaches that are part of a circular economy such as, but not limited to, promoting sustainable building refurbishments instead of demolition and construction and the use of pre-used building materials in new developments.

f. In all projects seek to leave the sites more biodiverse post development considering biodiversity sensitive urban design processes. In high biodiversity project sites seek to maintain biodiversity by avoiding or reducing impacts. In degraded project sites seek to reinstate, regenerate, and transform to strive for biodiversity positivity.

g. Promote water sensitive urban design throughout our projects, where relevant.

h. Seek to work in an integrated approach with Landscape and Planning colleagues, to deliver positive biodiversity and climate outcomes.

Landscape Architecture

Strategies:

a. Establish a climate and biodiversity positive design process for Tract and embed that into project workflow.

b. Develop annual per square metre emissions targets for project types and aim to reduce these yearly. Note, the Government and Australian Institute of Landscape Architecture advice is to hit a 75% reduction by 2030. This will require us to measure the carbon impacts of a selection of our projects annually.

c. Seek to maximise the sequestration of carbon in our projects, with the goal of ensuring our projects become climate positive within their operational lifetime.

d. In all projects seek to improve indigenous biodiversity post development. This will entail integrating ecological site analysis considerations into the project lifecycle at project commencement.

e. In high biodiversity project sites seek to maintain biodiversity by avoiding or reducing impacts. In restoration projects seek to specify a mix of provenance sourced plants consistent with current evidence on specifying plant species for climate resilience.

f. In degraded project sites seek to reinstate, regenerate, and transform to strive for biodiversity positivity.

g. In novel ecosystems seek to specify a high percentage of local indigenous plants first, followed by species native to Australia that will best thrive in the site conditions, with exotics used where needed, such as for solar access.

h. Explore climate adaptation measures in projects to ensure designs are appropriate in a changing climate and continue to provide an acceptable level of comfort for users.

i. Adopt canopy cover and understorey targets in line with local authority guidelines at the start of a project.

j. Design projects for longevity. Avoid short-term solutions, non-durable materials and following design trends that will not stand the test of time. Explore opportunities to retain, repurpose and recycle.

k. Review our standard specifications to include preferred options for materials and construction practices that have properties or a supply chain that reduces carbon emissions, embodied carbon and protects biodiversity.

l. Seek to partner with clients, sub-consultants, community and research institutions to progress climate and biodiversity positive outcomes in Landscape projects.

..

Hanlon Park, QLD
Turrbal and Yuggera

Media

Strategies:

a. Review 3D visualisations and illustrative plans to ensure they represent biodiverse and climate positive designs accurately and positively.

b. Support the Climate and Biodiversity Committee to successfully promote the ideas in this position statement internally and externally, including through social media.

c. Use our geospatial and 3D capabilities to support site level understanding of climate and biodiversity risks and opportunities.

Industry Leadership Goal

Acknowledge and embrace our responsibility as industry leaders through research, partnerships, advocacy, and policy.

Strategies:

a. Actively participate in systems advocacy through industry bodies and aligned groups such as the Australian Institute of Landscape Architects (AILA), Planning Institute of Australia (PIA), Urban Design Forum (UDF) and Australian Institute of Architects (AIA).

b. Acknowledge and endorse PIA's Principles for adaptation and mitigation of climate change (Planning in a Changing Climate, Position Statement 2021), and the AILA's Climate Positive Design and Biodiversity Positive Position Statements.

c. Undertake pro and low-bono services, with Board approval, to support select projects that pursue climate or biodiversity positive design outcomes and can be used as best practice examples.

d. Provide industry leadership by sharing our research and experience.

e. Form partnerships with clients, Government, Traditional Custodians and Owners, like-minded consultants, and suppliers to progress our project commitments.

Implementation Approach

To become a Climate and Biodiversity Positive organisation Tract must transition. These transition stages will run concurrently.

The timeline for delivery has yet to be determined.

An annual costed and Board endorsed Climate and Biodiversity Action Plan will be developed to document the activities Tract will undertake to deliver on this statement, including how to address this transition.

This Position Statement and supporting Action Plan will be reviewed annually to ensure our commitments remain current.

01 Optimise

We will optimise current approaches by making different decisions in our operations and projects in areas we directly control.

These are areas where the decisions we control have a direct impact on climate change and biodiversity loss. For example, changing how we operate to reduce operational emissions, changing project decisions to improve biodiversity or selecting suppliers who meet sustainable selection criteria.

02 Transition

Through a transition stage we will bring online new ways of working and projects, and align with others who share our approach and commitment to change. This will entail:

- collaborating or partnering with suppliers, clients, specialist consultants including Ecological Consultants and others to drive better outcomes, for example: accessing low emission materials for our designs or collaborating to save mature hollow bearing trees where able to be retained in the landscape.
- influencing to change project and industry emissions and biodiversity outcomes, including thought leadership or advocacy around Government policy and in projects.

03 Embed

Tracts operating model will clearly evidence climate and biodiversity positive design as defined in this statement. This shift will be evident in benchmarking we undertake on projects, the types of projects we undertake, our ways of working, and expertise, among other measures.

Implementation Road Map

To drive this transition Tract has commenced a Climate and Biodiversity Positive Design Working Group. A draft road map (overleaf) has been created, which seeks to embed:

Measurement and Accountability

To ensure the effectiveness of our efforts, we will assess our performance and establish measurable targets. We will transparently report on our progress. By holding ourselves accountable, we strive for continuous improvement in our climate and biodiversity positive design initiatives.

Education and Awareness

We will actively engage with our team members, clients, and the wider community to promote understanding and encourage responsible environmental stewardship. By sharing knowledge, best practices, and success stories, we aim to inspire others to adopt similar principles.

Collaboration and Innovation

Addressing the complex challenges of climate change and biodiversity loss requires collaboration across disciplines and sectors. We will actively seek partnerships with environmental experts, scientists, community and Traditional Custodians and Owners, and other design professionals. We will also encourage innovation and the adoption of new technologies that promote sustainable design solutions.

Circular Economy

We promote the adoption of a circular economy model, prioritising the reduction, reuse, and recycling of materials throughout the design life cycle. Our aim is to minimise waste generation and resource consumption while maximising the use of sustainable and environmentally friendly materials. By doing so, we will reduce the ecological footprint of our projects and foster a regenerative approach to design.

OVERSIGHT & ENGAGEMENT

Climate & Biodiversity Commitee provides:

- Project governance
- Internal + external communication
- Change management

SCOPE

COMPLETE

- Discuss the potential impact on Tract in the Climate and Biodiversity Committee
- Define the challenge scope though an organisation wide survey
- Consider preliminary aspirations & objectives

RESULT

- We agreed we would seek a climate & biodiversity positive response, defined transition stages & agreed that we should address areas where we have direct control, as well as where we have to partner or influence for change

DEFINE

UNDERWAY

- Define what best practice looks like in each discipline (Landscape, Planning, Urban Design, Media) so we know what we are striving for

EXAMPLE

- The Australian Institute of Landscape Architects (AILA) issued industry targets for years to net zero for select landscape project types & outlined how to address these by reducing carbon intensive material use & improving sequestration
- The Green Building Council of Australia delivers the Green Star standard for buildings & communities that can be adopted to improve climate & biodiversity outcomes

ASSESS

UNDERWAY

- Assess how well we are currently delivering on best practice
- Identify issue areas & opportunities for change in operations & projects. This means locating, selecting & using sustainability, emissions & biodiversity methodologies & rating systems, calculator tools & data

EXAMPLE

- Applying AILA Pathfinder emissions calculator tool on our landscape projects to understand areas of our practice that need to change to reduce project emissions

PRIORITISE

NOT STARTED

- Determine opportunity selection criteria
- Rank opportunities according to impact versus degree of control we have to change aspects of our work: Direct control, partner or influence for change

EXAMPLE

- Rank findings from Pathfinder data, for example focusing on particular high emitting project types & reducing concrete & planting more

PLAN

NOT STARTED

- Define potential actions to realise opportunities & meet targets
- Rank actions on potential impact vs. ease of implementation
- Select actions
- Finalise vision, objectives & targets
- Document an action plan

EXAMPLE

- Brainstorm & select ways we can meet targets, for example changing our specification workflow

MEASURE

UNDERWAY FOR LANDSCAPE (CLIMATE)

- Set targets for agreed opportunity areas.
- Document the baseline in priority areas by using data collected as part of the assess stage

EXAMPLE

- Adopt AILA emissions targets & develop project type benchmarks using data from the Pathfinder emissions analysis

ACT + TRACK

NOT STARTED

- Implement action plan
- Track delivery
- Measure, monitor & report on achievement of targets
- Refine as needed

EXAMPLE

- Implement, track & refine changes to workflow

Guiding Documents

Tract aligns with the positions of its industry bodies and enacts their guidance where possible, including, but not limited to:

AILA — Biodiversity Positive Position Statement

Biodiversity
Positive Design
Position Statement

Australian Institute of Landscape Architects

Introduction: the Biodiversity Crisis

Australia has a unique biodiversity that is essential for the health of human society and other life forms[1]. Much of its flora and fauna is found nowhere else in the world and it is integral to the identity and economic sustainability of the country, its people, landscapes, and cities[2,3]. In August 2019, the Australian Institute of Landscape Architects (AILA) declared a Climate and Biodiversity Loss Emergency in recognition of the environmental threats that we are facing here in Australia and globally. In doing this AILA joins with professional institutes and organisations around the world to energetically, and actively, address the existential threats to our living planet.

In the last 200 years Australia has experienced the largest recorded decline in biodiversity of any continent[1] due to driving forces such as habitat destruction, pollution, climate change, intensive resource use, land-use change and invasive species[4]. As much as 90% of the native vegetation in the eastern temperate and south-western temperate regions of Australia has been cleared for agriculture, transport, industry, cities, and suburbs making these biodiversity loss hotspots[5]. Half of Australia's nationally threatened animal species occur in areas planned for urban development, particularly greenfield development, which represents a serious threat to Australia's environmental health[6].

Landscape Architects interact with, enhance, and contribute to biodiversity through the landscapes they design, plan, and manage. As such, they are in a position to positively shape Australia's response to the biodiversity extinction crisis[7,8]. Cities and settlements in Australia and globally are greening their urban fabric. However, in order to address the biodiversity extinction crisis, initiatives must explicitly target positive actions for biodiversity[9,10]. Biodiversity Positive Design (BPD) is one such initiative.

Scope: Defining and Advocating for Biodiversity Positive Design

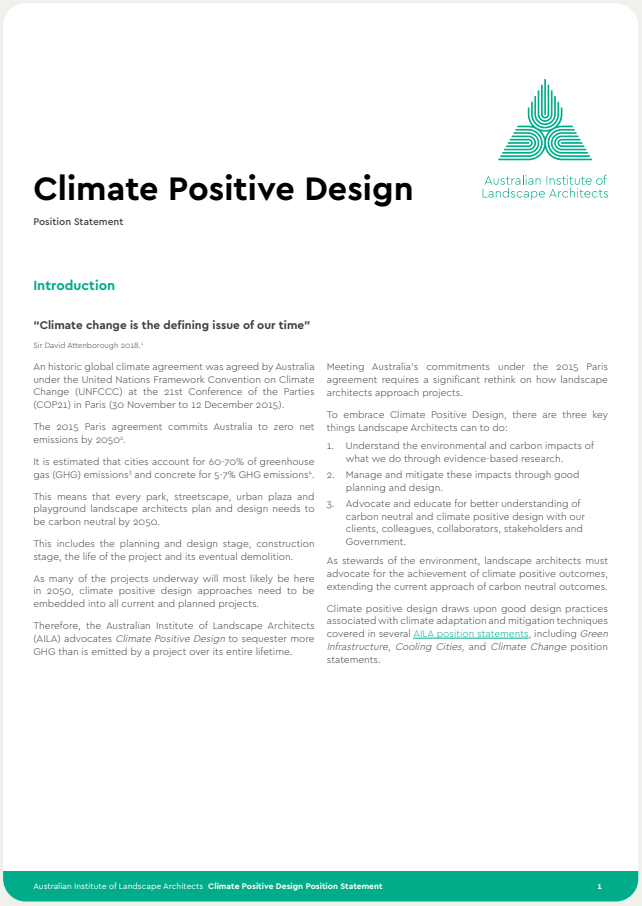
Biodiversity has been defined by the UN in its Convention on Biological Diversity as "the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems"[11,12]. Biodiversity occurs within sites, landscapes and regions of all scales and includes ecological communities, and ecological processes, whether naturally occurring or modified and managed by humans[13]. Recent studies suggest that the extinction crisis can be reversed through the careful creation, design, and long-term management of biodiverse cultural landscapes[14,15]. Such an approach is essential as human modified landscapes dominate the planet[16,17] and have been evolving for millennia[18,19].

Although there are calls for biodiversity sensitive design[20,21] some scientists, designers and international organisations suggest a much more radical commitment through biodiversity positive design is needed to avert the biodiversity loss crisis[22-25]. Biodiversity positive design (BPD) involves a commitment to a net positive approach whereby landscapes and structures increase the total ecological space and carrying capacity for appropriate biodiverse habitats and ecosystems[26]. By developing biodiversity positive targets, measuring outcomes, and focusing explicitly on the more-than-human relationships of landscapes, society can address the present biodiversity loss emergency[26].

Urban areas present creative and innovative opportunities for biodiversity conservation and education, through increasing urban green space, implementing biophilic urban design, increasing the diversity of species, and establishing green corridors, networks, and linkages. Together these living

Australian Institute of Landscape Architects **Biodiversity Positive Position Statement** **Endorsed · February 2023** 1

AILA — Climate Positive Design Statement



Australian Institute of Landscape Architects

Climate Positive Design

Position Statement

Introduction

"Climate change is the defining issue of our time"

Sir David Attenborough 2018.[1]

An historic global climate agreement was agreed by Australia under the United Nations Framework Convention on Climate Change (UNFCCC) at the 21st Conference of the Parties (COP21) in Paris (30 November to 12 December 2015).

The 2015 Paris agreement commits Australia to zero net emissions by 2050[2].

It is estimated that cities account for 60-70% of greenhouse gas (GHG) emissions[3] and concrete for 5-7% GHG emissions[4].

This means that every park, streetscape, urban plaza and playground landscape architects plan and design needs to be carbon neutral by 2050.

This includes the planning and design stage, construction stage, the life of the project and its eventual demolition.

As many of the projects underway will most likely be here in 2050, climate positive design approaches need to be embedded into all current and planned projects.

Therefore, the Australian Institute of Landscape Architects (AILA) advocates *Climate Positive Design* to sequester more GHG than is emitted by a project over its entire lifetime.

Meeting Australia's commitments under the 2015 Paris agreement requires a significant rethink on how landscape architects approach projects.

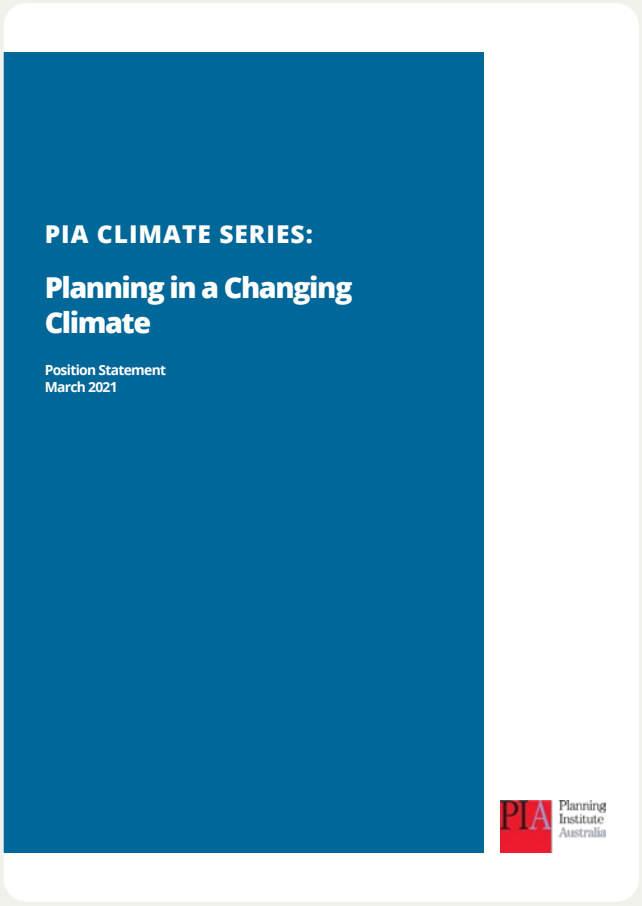
To embrace Climate Positive Design, there are three key things Landscape Architects can to do:

1. Understand the environmental and carbon impacts of what we do through evidence-based research.
2. Manage and mitigate these impacts through good planning and design.
3. Advocate and educate for better understanding of carbon neutral and climate positive design with our clients, colleagues, collaborators, stakeholders and Government.

As stewards of the environment, landscape architects must advocate for the achievement of climate positive outcomes, extending the current approach of carbon neutral outcomes.

Climate positive design draws upon good design practices associated with climate adaptation and mitigation techniques covered in several AILA position statements, including *Green Infrastructure*, *Cooling Cities*, and *Climate Change* position statements.

PIA — Climate Series Position Statement



PIA CLIMATE SERIES:

Planning in a Changing Climate

Position Statement
March 2021

PIA Planning Institute Australia

Climate & Biodiversity Committee

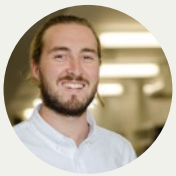
The Climate and Biodiversity Committee shaped this policy, which was then put out for consultation across the organisation.

Alex Courtney
Graduate Urban Designer

Sydney

Alistair Wenn
Senior Principal Landscape Architect

Melbourne

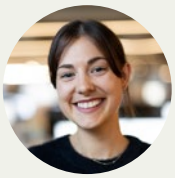


Andrew Thornton
Principal Town Planner

Melbourne

Brenton Baltetsch
Senior Landscape Architect

Melbourne



Brigitte Walsh
Landscape Architect

Melbourne

Chris Downie
Senior Principal Landscape Architect

Melbourne

Clare Field
Senior Town Planner

Melbourne

Corné van Rooyen
Senior Town Planner

Sydney

Deiter Lim
Managing Director

Mellbourne

Drew Westbrook
Associate Town Plannner

Brisbane

Ella Anderson
Senior Town Planner

Melbourne

Erin Specht
Senior Town Planner

Melbourne

Frances Shuttleworth
Landscape Architect

Adelaide

Georgina de Beaujeu
Climate and Biodiversity Strategist

Melbourne

Imogen Lillywhite
Quality Coordinator

Melbourne

Isabelle Verschueren
Senior Urban Designer

Melbourne

Janis Fischer
Executive Director Landscape Architecture

Mellbourne

Julie Lee
Director of Landscape Architecture

Sydney

Matthew Easton
Senior Principal Landscape Architect

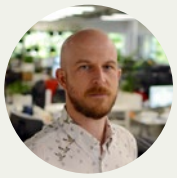
Sydney

Mel Currey
Principal Landscape Architect

Brisbane

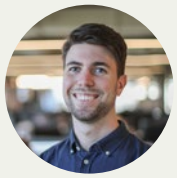
Nick Stephenson
Principal Landscape Architect

Melbourne



Stuart Tedford
Landscape Architect

Brisbane



Toby McCarney
Landscape Architect

Melbourne

Zuzana Vrbkova
Landscape Technician

Melbourne

Glossary

Carbon neutral

To become carbon neutral an organisation must reduce its greenhouse gas emissions and balance any carbon emissions that cannnot be removed with carbon offsets, noting that carbon neutral removes only carbon emissions[viii].

Net zero

To achieve net zero an organisation must reduce greenhouse gas emissions as much as possible. Hard-to-avoid emissions can be balanced by offsets. Carbon offsets are purchased only as a last resort. Net zero refers to all greenhouse gases being emitted, such as methane (CH_4), nitrous oxide (N_2O) and other hydrofluorocarbons.

Biodiversity

Short for 'Biological diversity' which is the variety of life on Earth. The variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, among species and of ecosystems[ix].

Embodied carbon

The carbon dioxide (CO_2) emissions associated with materials and construction processes throughout the whole lifecycle of a building or infrastructure. It includes any CO_2 created during the manufacturing of building materials (material extraction, transport to manufacturer, manufacturing), the transport of those materials to the job site, the construction practices used, maintaining the site, and eventually demolishing it, transporting the waste, and recycling it.

Operational carbon

The CO_2 that comes from a site's operational energy consumption, such as heating and lighting.

Circular economy

The circular economy is a model of production and consumption which involves sharing, leasing, reusing, repairing, refurbishing, and recycling existing materials and products as long as possible. In this way, the life cycle of products is extended....it implies reducing waste to a minimum. When a product reaches the end of its life, its materials are kept within the economy wherever possible through recycling. These can be productively used again thereby creating further value[x].

Climate positive design

Climate positive design involves reducing greenhouse gas emissions and embodied carbon while actively contributing to carbon sequestration, thereby ensuring a net-positive impact on the climate.

Biodiversity positive design

Biodiversity positive design aims to protect, enhance, and restore ecosystems, supporting the protection and proliferation of diverse, indigenous plant and animal species, resulting in a net gain in biodiversity.

References

i. The Intergovernmental Panel on Climate Change (IPCC),(2022) The evidence is clear: the time for action is now. We can halve emissions by 2030, Geneva, https://www.ipcc.ch/2022/04/04/ipcc-ar6-wgiii-pressrelease

ii. Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES) (2019): Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. S. Díaz, J. Settele, E. S. Brondízio, H. T. Ngo, M. Guèze, J. Agard, A. Arneth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. Ichii, J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D. Obura, A. Pfaff, S. Polasky, A. Purvis, J. Razzaque, B. Reyers, R. Roy Chowdhury, Y. J. Shin, I. J. Visseren-Hamakers, K. J. Willis, and C. N. Zayas (eds.). IPBES secretariat, Bonn, Germany. 56 pages. https://doi.org/10.5281/zenodo.3553579

iii. World Economic Forum (2020) New Nature Economy Report II The Future Of Nature And Business In collaboration with AlphaBeta; https://www3.weforum.org/docs/WEF_The_Future_Of_Nature_And_Business_2020.pdf

iv. United Nations (2011) Cities and Climate Change: Global Report on Human Settlements 2011. http://mirror.unhabitat.org/downloads/docs/E_Hot_Cities.pdf

v. New Scientists (2018) C02 emissions from Cement. https://www.newscientist.com/article/2185217-the-future-with-lower-carbonconcrete

vi. World Green Building Council (2022) , Implications of IPCC report for built environment: urgency to scale existing solutions now for a liveable future, https://worldgbc.org/article/implications-ipcc-report-built-environment/#:~:text=Other%20environmental%20impacts%20of%20buildings,gap%20to%201.5%C2%B0C

vii. Australian Institute of Landscape Architects (2022) Climate Positive Design Position Statement, https://www.aila.org.au/common/Uploaded%20files/_AILA/Resource%20library/Climate%20Positive%20Design/Climate%20Positive%20Design%20Position%20Statement.pdf

viii. Carbon Cure(2023) Definition of operational and embodied carbon, https://www.carboncure.com/resources/the-case-for-performance-based-concrete-specs

ix. Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES) (2023) Definition of Biodiversity, https://www.ipbes.net/glossary-tag/biodiversity#:~:text=life%20on%20Earth.-,The%20variability%20among%20living%20organisms%20from%20all%20sources%20including%20terrestrial,among%20species%20and%20of%20ecosystems

x. European Parliament (2023), About the Circular Economy, https://www.europarl.europa.eu/news/en/headlines/economy/20151201STO05603/circular-economy-definition-importance-and-benefits

Melbourne
Wurundjeri Country

Sydney
Gadigal Country

Brisbane
Turrbal & Yuggera Country

Adelaide
Kaurna Country

Geelong
Wadawurrung Country